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QR codes and their applications for libraries – a case study from the University of Bath Library



A QR (Quick Response) code is a two dimensional bar code that can be read on devices such as a mobile camera phone, a laptop or other computer. When read, it allows the user to undertake an action such as reading text, accessing a web site or texting a number. In other words, a QR code links the physical world (poster, printout, room, physical object) to the electronic (web resource) and facilitates communication (SMS message, phone

call), adding significant value by improving accessibility to information for those using mobile devices. The University of Bath Library has been exploring and testing library applications for QR codes, with the emphasis very much on experimentation and discovery.

As a technology the generation and reading of QR codes on a mobile device is becoming straightforward, with web based generators becoming more available and easier to use, and the inclusion of the appropriate software pre-installed on many camera phones. This technology is well established in countries such as Japan and is starting to emerge into the mainstream in the UK across a number of sectors, including media and marketing. QR codes are beginning to appear on flight and train tickets and to provide links to advertising and promotional material through posters, business cards and even coffee cups. At Bath we have found that they are still very much an emerging technology with relatively low student awareness.

QR codes can be read from a print or an electronic image. To read a QR code you need QR reader software installed on a compatible mobile camera phone or computer, so that when you scan or photograph the code the software can decode it. This decoding facilitates an action such as opening a browser at a web page, opening a text messaging programme pre-populated with a number to text, or providing some other textual information. So for example, you can link a physical instance of the code, e.g. from a poster, with a web resource to provide additional information.

QR codes join things up by removing barriers which is very familiar territory for librarians, who continually move things around behind the scenes so users can find what they need. There are clearly many potential applications for these codes and as their production is relatively inexpensive they are also appropriate for temporary use. At Bath, our main focus has been on the library catalogue. We have attached QR codes to library catalogue records thereby allowing students to capture bibliographic and location information on their mobiles.

The QR codes are created dynamically using the Google Chart API to generate the QR code and javascript to include it in the page. It should work with any database-driven website. The QR code encodes the author, title, location and call number of the resource as a text string, enabling a user to display these details on their camera phone before going to locate it on the library shelves. The QR code is displayed only if a copy is available on the open shelves, or failing that in the short loan collection. This is a clear example of linking the virtual to the physical. Instead of searching the catalogue and writing information on paper, scanning the code directly from the screen to a phone allows a user to locate the resource and to save the bibliographic and location details for later use.

QR code use does not generate statistics, so our initial evaluation of their use has been mainly anecdotal. We found that a number of students recognised QR codes and many of them liked the concept of being able to scan something to complete a task. Previous research by our e-learning colleagues had suggested that many students would be able to use a QR reader on their phone. It soon became evident that it can be difficult to install a reader and that some simply do not work effectively for this purpose. We found that a much smaller number of people than we originally envisaged were able to scan QR codes using their phones.

With this in mind, I see support as one of the key elements of any future QR initiative at Bath. As well as offering hands-on support to install the appropriate readers, we should enable and provide opportunities for students to help each other. It would also be sensible for information regarding QR code reading and readers to be integrated into the University's existing IT help infrastructure, along with mechanisms for the University to bear the cost of any resulting data and file transfer charges. The other area to address is one of motivation. Until QR readers become ubiquitous

there needs to be a good reason for users to take the trouble to load and use them. Locating books and building lists of references alone does not really add sufficient value to persuade library users to engage with this. A consistent use of QR codes across campus may well be more persuasive in future.

We have seen that there is a growing expectation that services can be delivered to mobiles. It makes sense for us to experiment with technologies such as QR codes to join up library services with the technology and equipment students use. This is just another tool which might work for some. It is still early days for QR use in the UK and neither the technology or the use are mainstream as yet, but we now know that we can generate QR codes and we have identified some uses for them. Our intention is to continue to experiment to see if and how they begin to add value for our users.